REMARKS/ARGUMENTS

This is in response to the Office Action mailed August 22, 2007 for the above-captioned application. Reconsideration and further examination are respectfully requested.

In the Restriction Requirement, the examiner has identified ten groups of claims as lacking unity of invention in view of the teaching of WO91/09137. Applicants have amended claim 121 and **traverse** this restriction requirement in part.

As a first matter, Applicants elect the claims of Group I, other than claim 192 (Claims 146-182 and claims 189-190) for consideration in this application. Independent claims 121 and 189 have been amended to include a limitation that the binding partner has a characteristic of patient serum TSH receptor autoantibodies. This amended claim is novel over the cited reference in which there is no mention of autoantibodies as found in patient serum. In this regard, it is noted that the human monoclonal antibody hMAb TSHR 1 gas the characteristics of human patient serum TSHR autoantibodies in terms of its ability to stimulate cAMP production, to inhibit TSH binding and to bind to the TSH receptor. hMAb TSHR 1 is about 3000 times more potent than donor patient serum whole IgG in terms of cAMP stimulating activity and in terms of inhibition of TSH binding (see Table 8 in the specification) Furthermore, the bindnig affinity of the TSHR of the human monoclonal thyroid stimulating autoantibody of the current application is 5×10^{10} molar (see, Page 67).

In contrast, while autoantibodies are mentioned in the cited reference (for example on Page 3, where they are indicated as a cause in Grave's disease) there is no indication that the antibodies made in the reference have the characteristics of autoantibodies. Indeed, one of the disclosure of the reference is suppressor T cells or pharmaceutical preparations specific for anti-thyrotropin receptor auto-antibodies (Page 10) because the autoantibodies are considered undesirable. The method for producing such T cells does not involve a purified autoantibody, but rather dosing an animal with enough TSH that it makes autoantibodies, and then finding the T cells specific to the autoantibodies that may also have been generated. (Page 51, line 26 - Page 52, line 20).

Applicants therefore submit that Claim 121 as amended is novel over the art, and that there is no remaining basis for the lack of unity assertion. On this basis, Applicants request reconsideration of the separation of the claims of Group II 147-155 from the elected claims. These claims are drawn to specific polynucleotides encoding certain antibody portions which are These antibody portions are those recited in dependent claims of the elected invention. (See Pages 24-26 for a comparison of nucleotide and amino acid sequence numbers). As a general rule, PCT Unity of Invention Rules do not separate nucleotide and corresponding amino acid sequences as different inventions. Therefore, Applicants submit that the claims of Group II do

possess unity of invention with the elected claims and therefore as to these claims the restriction requirement should be withdrawn.

In ¶ 3 of the restriction requirement, the Examiner identifies the various sequences as separate species. Applicants understand that this is a species election, and that all of the species will be maintained in the application if the generic claim is found to be allowable. With this understanding, Applicants elect the species of Seq. ID No. 1. It is further pointed out that Seq. ID No. 10 is the nucleotide sequence corresponding to the amino acid sequence of Seq. ID No. 1.

In ¶ 4, the Examiner request an election of a complete antibody. Although not expressly stated, Applicants understand this to be a species election as well. Subject to this understanding, Applicants elect the V_H V_L combination of Seq ID Nos. 1 and 6 which are found in hMab TSHR 1.

It is noted that claim 192 has been omitted by Applicants from the proposed election. This is because the binding partner in this claim is one that inactivates or renders TSH receptors unresponsive which is different from the binding partner of amended claim 121. Therefore, this modification of the restriction requirement is proposed as an Suggested Restriction Requirement.

Applicants have made amendments to combine the limitations of some claims and cancel the redundant claims. With the cancellation of claims and the adoption of the Suggested Restriction Requirement with respect to claim 192, the elected claims of this application are in compliance with the 5/25 requirement of 37 CFR § 1.75.

Respectfully submitted,

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